

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,039,067 B2  
APPLICATION NO. : 09/917171  
DATED : May 2, 2006  
INVENTOR(S) : Lee Daniel Feinberg et al.

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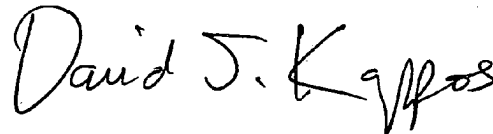
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete the title page and substitute therefore the attached title page consisting of corrected illustrative figure.

Delete Drawing Sheet 4 of 7 and substitute therefore the attached Drawing Sheet 4 of 7.

Signed and Sealed this

Fifteenth Day of December, 2009

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, flowing style with a large initial 'D' and a stylized 'K'.

David J. Kappos  
*Director of the United States Patent and Trademark Office*

(12) **United States Patent**  
**Feinberg et al.**

(10) **Patent No.:** **US 7,039,067 B2**  
**(45) Date of Patent:** **May 2, 2006**

(54) **METHODS AND SYSTEMS FOR HYBRID INTERFACES AND ARCHITECTURES FOR OPTICAL COMMUNICATIONS**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 861 days.

(21) Appl. No.: **09/917,171**

(22) Filed: **Jul. 30, 2001**

(65) **Prior Publication Data**

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(51) Int. Cl. **H04L 12/56** (2006.01)

(52) U.S. Cl. **370/468; 370/535**

(58) Field of Classification Search **370/464, 370/465, 468, 498, 535, 536, 537, 538; 398/54, 398/56**

See application file for complete search history.

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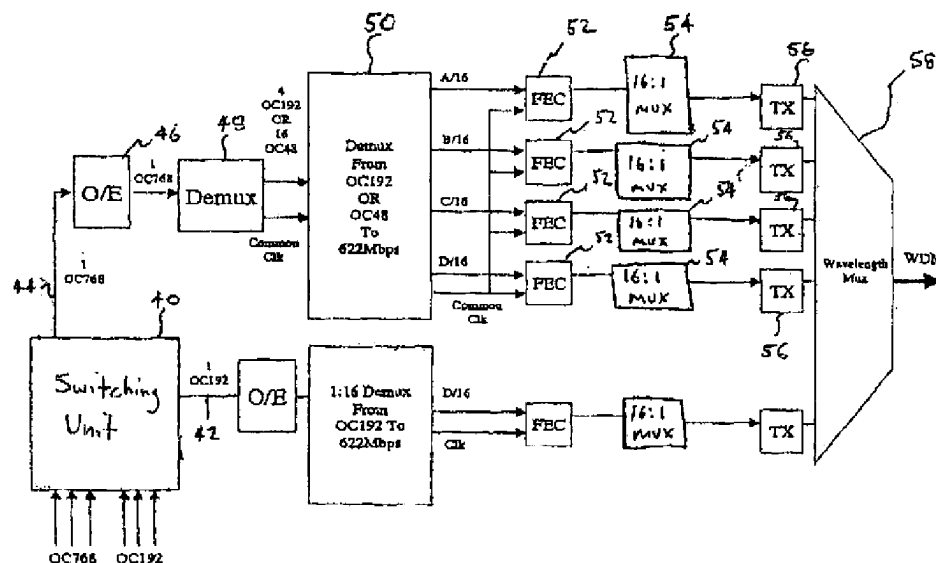
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Primary Examiner - Ricky Q. Ngo  
 Assistant Examiner - Derrick W Ferris

(57) **ABSTRACT**

A hybrid interface for handling different types of data streams is disclosed. Both OC192 and OC768 data streams can be transported between terrestrial and submarine systems using hybrid interfaces. Examples include processing branches that use common FEC units, multiplexers, demultiplexers, transmitters and receivers for both types of data streams. WDM channels are allocated in groups for OC768 data stream handling. Time misalignment between received channels within a group is identified and compensated.

**59 Claims, 7 Drawing Sheets**



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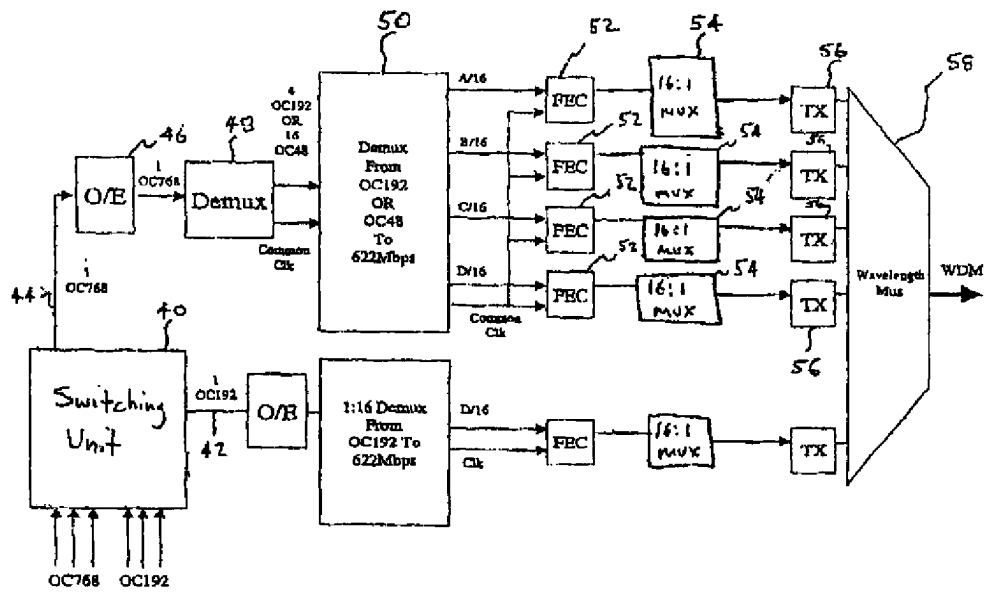


Figure 4